IN THE CLAIMS

Please amend the claims as follows:

1. (Original) A method for canceling ghost images generated due to multipath propagation/interference in an input video signal, comprising:

receiving multipath video signals, wherein each video signal includes a synchronization signal;

computing edge parameters of each synchronization signal;

detecting the synchronization signal associated with each video signal based on the edge parameters; and

canceling the ghost images from the input video signal using the synchronization signals and the edge parameters.

2. (Currently Amended) A ~~The~~ method ~~of claim 1~~ for canceling ghost images generated due to multipath propagation/interference in an input video signal, comprising:

receiving multipath video signals, wherein each video signal includes a synchronization signal;

computing edge parameters of each synchronization signal;

detecting the synchronization signal associated with each video signal based on the edge parameters; and

canceling the ghost images from the input video signal using the synchronization signals and the edge parameters,

wherein canceling the ghost images using the synchronization signals and the edge parameters comprises:

selecting the input video signal based on the detected synchronization signals and the edge parameters; and

canceling remaining video signals from the selected input video signal using the edge parameters.

3. (Original) The method of claim 2, wherein detecting the synchronization signal associated with each video signal based on the edge parameters comprises:

detecting a current edge of a synchronization signal in the input video signal;

comparing the current edge to previously detected edges stored in a table;

if the current edge is of an opposite kind and having substantially equal amplitude to one of the previously detected edges in the table, then selecting the opposite kind previously detected edge and forming a current synchronization signal by using the current edge and the selected previously detected edge, computing a time duration between the current edge and the selected previously detected edge using the edge parameters, computing an amplitude and time of occurrence of the current synchronization signal, and removing the selected previously detected edge from the table; and

repeating the detecting, comparing, and computing steps to form a next synchronizing signal.

4. (Original) The method of claim 3, further comprising:

if the current edge is not of an opposite kind to one of the previously detected edges stored in the table, then storing the current edge along with the previously stored edges in the table; and

repeating the detecting, comparing, and computing steps to form the next synchronizing signal.

5. (Original) The method of claim 3, wherein selecting the input video signal based on the synchronization signals and the edge parameters comprises:

checking the amplitudes of formed synchronizing signals;

choosing a synchronizing signal having a highest amplitude based on the outcome of the comparison; and

selecting a video signal associated with the chosen synchronizing signal as the input video signal.

6. (Original) The method of claim 3, wherein canceling the remaining video signals from

the selected input video signal comprises:

normalizing the amplitudes of the formed synchronizing signals to the amplitude of the synchronizing signal of the input video signal;

delaying the input video signal by the time of occurrence of a substantially subsequent synchronizing signal; and

canceling the remaining video signals by multiplying the delayed input video signal with the normalized amplitude of the subsequent synchronizing signal and subtracting the remaining video signals from the input video signal.

7. (Original) The method of claim 3, further comprising:

comparing amplitude of the current synchronizing signal to a threshold value; and

if the amplitude of the current synchronizing signal is greater than or equal to the threshold value then repeating the above steps to form a next video signal.

8. (Original) The method of claim 1, wherein the synchronization signal comprises a signal selected from the group consisting of a horizontal synchronization (Hsync) signal and serration pulses in a vertical synchronization (Vsync).

9. (Original) A method for canceling ghost images from multipath video signals that arise during transmission of a TV signal via a channel, comprising:

receiving multipath line-by-line video signals, wherein each video line includes a Hsync signal;

computing edge parameters of each video line;

detecting each Hsync signal based on the edge parameters; and

canceling ghost lines from the multipath line-by-line video signals by using the detected Hsync signals and the edge parameters.

10. (Currently Amended) A ~~The~~ method ~~of claim 9~~ for canceling ghost images from multipath video signals that arise during transmission of a TV signal via a channel, comprising:

receiving multipath line-by-line video signals, wherein each video line includes a Hsync signal;

computing edge parameters of each video line;

detecting each Hsync signal based on the edge parameters; and

canceling ghost lines from the multipath line-by-line video signals by using the detected Hsync signals and the edge parameters,

wherein detecting each Hsync signal based on the edge parameters comprises:

detecting a current edge in the Hsync signal of a current video line in the video signal;

computing a slope, an amplitude, and a time of occurrence of the current edge;

comparing the slope of the current edge to slopes of previously detected edges in the current video line stored in a table; and

if the slope of the current edge is opposite the slope of one of the previously detected edges stored in the table and a time duration between the current edge and the one of the previously detected edges is substantially equal to an Hsync width, then forming a current Hsync signal by using the current edge along with the one of the previously detected edges and computing ~~an~~ the amplitude of the current edge, and removing the one of the previously detected edges from the table.

11. (Original) The method of claim 10, further comprising:

if the slope of the current edge is not opposite to the slope of the one of the previously detected edges in the table, then storing the current edge along with the previously detected edges in the table; and

repeating the detecting, comparing, and computing steps to form a next Hsync signal.

12. (Original) The method of claim 10, wherein canceling the ghost lines from the multipath line-by-line video signals comprises:

checking the amplitudes of formed Hsync signals;

choosing a Hsync signal having a highest amplitude based on the outcome of the checking;

selecting a video signal associated with the chosen Hsync signal as the input video signal;

normalizing the amplitudes of the formed Hsync signals to the amplitude of the Hsync signal associated with the input video signal;

delaying the input video signal by the time of occurrence of a subsequent Hsync signal; and

canceling remaining video signals in a next video line by multiplying the delayed input video signal with the normalized amplitudes of remaining Hsync signals and subtracting the remaining video signals from the next video line.

13. (Original) The method of claim 11, further comprising:

comparing the amplitude of the current Hsync signal to a threshold value; and

if the amplitude of the current Hsync signal is greater than or equal to the threshold value then repeating the above steps to form a next Hsync signal.

14. (Original) A method for canceling ghost images from a field-by-field video signal transmitted via a transmission channel, comprising:

receiving multipath field-by-field video signals, wherein each video field includes a vertical blanking interval (VBI), and wherein the VBI includes a Vsync signal;

detecting the Vsync signal in a current video field based on edge parameters of the Vsync signal including serration pulses; and

canceling a ghost image in a next video field by using the edge parameters and the detected Vsync signal.

15. (Original) The method of claim 14, wherein detecting the Vsync signal in the current video field based on the edge parameters comprises:

detecting a current edge in the Vsync signal in the current video field;

computing a slope, amplitude, and a time of occurrence of the current edge;

comparing the slope of the current edge to slopes of previously detected edges in the current video field stored in a table; and

if the slope of the current edge is opposite the slope of one of the previously detected edges in the table and is if the slope of the current edge is same as another one of the previously

detected edges in the table, then forming a current Vsync signal by using the current edge along with the two of the previously detected edges and computing a time duration between the current edge and the two of the previously detected edges and an amplitude of the current edge, and removing the two of the previously detected edges from the table.

16. (Original) The method of claim 15, further comprising:

if the slope of the current edge is not opposite the slope of one of the previously detected edges in the table and if the slope of the current edge is same as another one of the previously detected edges in the table, then including the current edge in the table; and

repeating the detecting, comparing, and computing steps to form a next Vsync signal.

17. (Original) The method of claim 15, wherein canceling the ghost in the next video field using the edge parameters and the detected Vsync signal comprises:

checking the amplitudes of previous and current Vsync signals;

choosing a Vsync signal having a highest amplitude based on the outcome of the checking;

selecting a video signal associated with the chosen Vsync signal as the input video signal;

normalizing the amplitudes of the previous and current Vsync signals to the amplitude of the Vsync signal associated with the input video signal;

delaying the input video signal by the time of occurrence of a Vsync signal having lower amplitude; and

canceling a remaining video signal in the next video field by multiplying the delayed input video signal with the normalized amplitude of the Vsync signal having the lower amplitude and subtracting remaining video signal from the next video field.

18. (Original) The method of claim 15, further comprising:

comparing amplitude of the current Vsync signal to a threshold value; and

if the amplitude of the current synchronization signal is greater than or equal to the threshold value then repeating the above steps to cancel a next ghost image.

19. (Original) An article comprising:

a storage medium having instructions that, when executed by a computing platform, result in execution of a method comprising:

receiving multipath video signals, wherein each video signal includes a synchronization signal;

computing edge parameters of each synchronization signal;

detecting the synchronization signal associated with each video signal based on the edge parameters; and

canceling the ghost images from the input video signal using the synchronization signals and the edge parameters.

20. (Currently Amended) ~~The~~ An article ~~of claim 19,~~ comprising:

a storage medium having instructions that, when executed by a computing platform, result in execution of a method comprising:

receiving multipath video signals, wherein each video signal includes a synchronization signal;

computing edge parameters of each synchronization signal;

detecting the synchronization signal associated with each video signal based on the edge parameters; and

canceling the ghost images from the input video signal using the synchronization signals and the edge parameters,

wherein canceling the ghost images using the synchronization signals and the edge parameters comprises:

selecting the input video signal based on the detected synchronization signals and the edge parameters; and

canceling remaining video signals from the selected input video signal using the edge parameters.

21. (Original) The article of claim 20, wherein detecting the synchronization signal associated with each video signal based on the edge parameters comprises:

detecting a current edge of a synchronization signal in the input video signal;

comparing the current edge to previously detected edges stored in a table;

if the current edge is of an opposite kind and having substantially equal amplitude to one of the previously detected edges in the table, then selecting the opposite kind previously detected edge and forming a current synchronization signal by using the current edge and the selected previously detected edge, computing a time duration between the current edge and the selected previously detected edge using the edge parameters, computing an amplitude and time of occurrence of the current synchronization signal, and removing the selected previously detected edge from the table; and

repeating the detecting, comparing, and computing steps to form a next synchronizing signal.

22. (Original) The article of claim 21, further comprising:

if the current edge is not of an opposite kind to one of the previously detected edges stored in the table, then storing the current edge along with the previously stored edges in the table; and

repeating the detecting, comparing, and computing steps to form the next synchronizing signal.

23. (Original) An apparatus to cancel ghost images, comprising:

an input module that receives multipath video signals that arise during transmission of a television signal over a transmission channel, wherein each received video signal includes a synchronization signal;

an adaptive filter circuit coupled to the input module that receives each video signal from the input module, wherein the adaptive filter includes a plurality of tapped delay lines; and

a ghost image detection circuit coupled to the input module and the adaptive filter circuit, comprising:

a processor that receives each video signal from the input module and detects edges of the synchronization signals, wherein the processor computes edge parameters of the detected edges, wherein the processor detects synchronization signals associated with each received video

signal based on the computed edge parameters, and wherein the processor generates tap coefficients based on the detected synchronization signals, wherein the adaptive filter circuit receives the tap coefficients from the ghost image detection circuit and controls the plurality of tapped delay lines to cancel the ghost images.

24. (Original) The apparatus of claim 23, wherein the processor selects a video signal as an input video signal from the multipath video signals based on the detected synchronization signals and the edge parameters, and wherein the processor generates tap coefficients using the input video signal and the detected synchronization signals and the edge parameters.

25. (Currently Amended) ~~The~~ An apparatus ~~of claim 24,~~ to cancel ghost images, comprising:

an input module that receives multipath video signals that arise during transmission of a television signal over a transmission channel, wherein each received video signal includes a synchronization signal;

an adaptive filter circuit coupled to the input module that receives each video signal from the input module, wherein the adaptive filter includes a plurality of tapped delay lines; and

a ghost image detection circuit coupled to the input module and the adaptive filter circuit, comprising:

a processor that receives each video signal from the input module and detects edges of the synchronization signals, wherein the processor computes edge parameters of the detected edges, wherein the processor detects synchronization signals associated with each received video signal based on the computed edge parameters, and wherein the processor generates tap coefficients based on the detected synchronization signals, wherein the adaptive filter circuit receives the tap coefficients from the ghost image detection circuit and controls the plurality of tapped delay lines to cancel the ghost images,

wherein the ghost image detection circuit further comprises:

a comparator coupled to the processor, wherein the processor detects a current edge of a synchronization signal in the input video signal, wherein the comparator then compares the current edge to previously detected edges stored in a table, wherein the processor forms a current synchronization signal by using the current edge and the one of

the previously detected edges in the table if the current edge is of an opposite kind to one of the previously detected edges in the table, wherein the processor computes an amplitude and a time of occurrence of the current synchronization signal using the edge parameters, and wherein the processor removes the one of the previously detected edges from the table.

26. (Original) The apparatus of claim 25, wherein the ghost image detection circuit further comprises a memory that stores the table and edge parameters of synchronization signals.

27. (Original) The apparatus of claim 25, wherein the processor normalizes the amplitudes of detected synchronization signals to the input video signal, wherein the processor computes a filter tap coefficient by using amplitude of a detected ghost Hsync, wherein the adaptive filter circuit delays the input video signal and cancels remaining video signals based on the computed filter tap coefficient.

28. (Original) The apparatus of claim 27, wherein the comparator compares amplitude of the formed current synchronization signal to a threshold value, and wherein the processor cancels a next ghost image if the amplitude of the next detected synchronization signal is greater than or equal to the threshold value.

29. (Original) The apparatus of claim 23, wherein-the input module further comprises:

an input filter to improve noise immunity of the ghost image detection circuit;

a delay equalizer coupled to the input filter to match delay of the input filter during a ghost cancellation phase; and

a MUX coupled to the delay equalizer and the input filter switches between the delay equalizer and the input filter during the ghost cancellation and edge detection phases.

30. (Original) An integrated circuit comprising:

an input module that receives multipath line-by-line video signals during transmission of a television signal over a transmission channel, wherein each received video line includes a Hsync signal;

an adaptive filter circuit coupled to the input module that receives each video line from the input module, wherein the adaptive filter includes a plurality of tapped delay lines; and

an edge detection circuit coupled to the input module and the adaptive filter circuit, comprising:

a processor that receives each video line from the input module and computes edge parameters in each video line, wherein the processor detects each Hsync signal based on the edge parameters, wherein the processor generates tap coefficients based on the detected video lines, wherein the adaptive filter circuit receives the tap coefficients from the edge detection circuit and controls the plurality of tapped delay lines to cancel ghost lines.

31. (Original) The integrated circuit of claim 30, wherein the processor detects a current edge in the Hsync signal of a current video line in the video signal and wherein the processor computes a slope, amplitude, and a time of occurrence of the current edge.

32. (Currently Amended) ~~The~~ An integrated circuit ~~of claim 31~~comprising:

an input module that receives multipath line-by-line video signals during transmission of a television signal over a transmission channel, wherein each received video line includes a Hsync signal;

an adaptive filter circuit coupled to the input module that receives each video line from the input module, wherein the adaptive filter includes a plurality of tapped delay lines; and

an edge detection circuit coupled to the input module and the adaptive filter circuit, comprising:

a processor that receives each video line from the input module and computes edge parameters in each video line, wherein the processor detects each Hsync signal based on the edge parameters, wherein the processor generates tap coefficients based on the detected video lines, wherein the adaptive filter circuit receives the tap coefficients from the edge detection circuit and controls the plurality of tapped delay lines to cancel ghost

lines,

wherein the edge detection circuit further comprises:

a comparator that compares the slope of the current edge to slopes of previously detected edges in the current video line stored in a table, wherein the processor forms a current Hsync signal by using the current edge along with the one of the previously detected edges and computes an amplitude of the current edge, and removes the one of the previously detected edges from the table, if the slope of the current edge is opposite the slope of the one of the previously detected edges stored in the table and a time duration between the current edge and the one of the previously detected edges is substantially equal to an Hsync width.

33. (Original) The integrated circuit of claim 32, wherein the processor stores the current edge along with the previously detected edges in the table, if the slope of the current edge is not opposite to the slope of the one of the previously detected edges in the table.

34. (Original) An apparatus comprising:

a means that receives multipath video signals, wherein each received television signal includes a synchronization signal;

a means that receives the input video signal and computes edge parameters of each synchronization signal and detects the synchronization signals based on the computed edge parameters;

a means to generate tap coefficients based on the detected synchronization signals; and

a means to cancel ghost images using the generated tap coefficients.

35. (Original) The apparatus of claim 34, further comprising:

a means that stores the detected edges and the edge parameters in a table.